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NOTES ON THE CAPTURE, HANDLING AND TRANSPORT OF THE SABALO OR ADULT MILKFISH, CHANOS CHANOS (FORSKAL)

by

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Abstract

The paper describes a simple and inexpensive method of handling and transporting wild sabalo captured from the sea.

Introduction

The sabalo is a fast swimmer and a very wild fish. It is usually trapped in fish corrals locally known as "baklad" during the peak months of April, May and June. It is also caught in the "otoshi-ami" or the Japanese trap net which is a very effective gear recently introduced in the Philippines. Live sabalo can be caught with gill nets also provided the fish is lifted at the right time.

Handling the sabalo in the otoshi-ami or fish corral often presents problems as the fish is very excitable and injures itself by jumping. The first step, therefore, before taking up any program on artificial propagation of milkfish is to develop a technique of transporting and handling sabalo caught from the wild. The paper describes the method followed to solve this important problem.

Materials and Methods

For the study, all the three types of fishing gears as mentioned earlier have been used. The experimental sabalo were caught from 1) otoshi-ami in Pandan Bay, Antique in May, 1975; 2) two fish corrals or "baklad", measuring 200-300 m (approx.) from the shore of Tigbauan, Iloilo in May, 1976; and 3) gill nets from Lusaran, Nueva Valencia, Guimaras in April and May, 1976.

In the first two fishing gears an extra net was used to cover the fish trap to keep the sabalo from escaping. With the slightest

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provocation, the sabalo would jump as high as 8-10 ft (2.66-3.05 m) making its escape easy if no protective net is used. In the third fishing gear, however, immediate careful removal of the fish caught inthe net is essential so as to provent further damage to the fish.

As soon as the sabalo are caught, transporting them presents another serious consideration. In our preliminary studies which were conducted early in May 1975, 2-phenoxy-ethanol tranquilizer was used but the milkfish spawners died shortly after the treatment.

In the middle of May 1975, a simple but more effective method of transporting sabalo alive from the otoshi-ami was developed. The fish was simply put inside a wooden tank with sea water, turning its ventral side up and its dorsal side down, in an inverted position.

Upon reaching the shore, the fish was laid on a trough of double "M" metal frame, lined with urethane foam (Plate 1). The nape and tail of the fish fitted snugly on the trough, thereby holding it securely in the inverted position (Plate 2). The fish was tied further after wrapping a thin plastic sheet and a urethane foam around its belly in order to prevent any, injury and to secure it during the transport.

Then, the entire set-up was kept inside a one-ton PVC tank (Plate 3). The PVC tank, filled with sea water contained two to four sabalo during every transport. It is also continuously aerated with pure oxygen and cooled down to about 20^{o}C to reduce the basal metabolic rate of the fish.

In May 1976, sabalo were handled using basically the same technique as previously developed in Pandan. In order to minimize body injuries a fine-meshed plankton net was utilized in transferring the sabalo from the fish corral to a wooden box (Plate 4) in a motorized boat. This box was designed with "V" slots lined with foam to support and stabilize the inverted fish.

To secure adequate supply of oxygen and remove traces of previously applied topical medication (Betnovate C and Whitfield ointments), sea water was changed manually every 3-5 minutes while in transit. The abdomen of every fish was examined by pressing gently for possible eggs or milk. Morphological measurements were also taken.

From time to time, several batches of sabalo were brought to the Igang Sea Farming Station (Plate 5) and to the

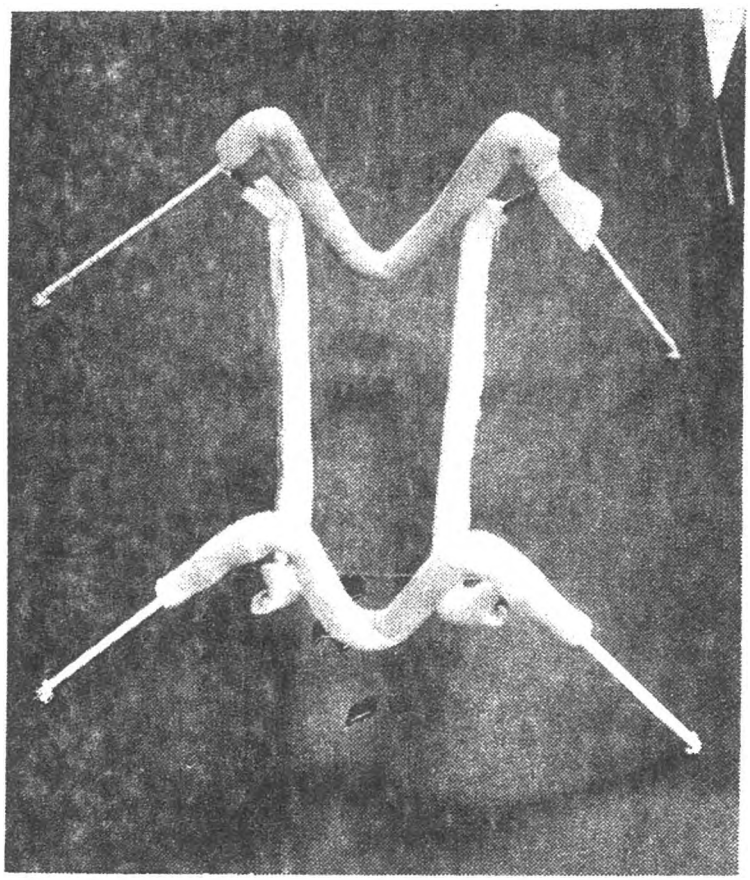

Fig. 1. Double "M" metal frame for holding sabalo.

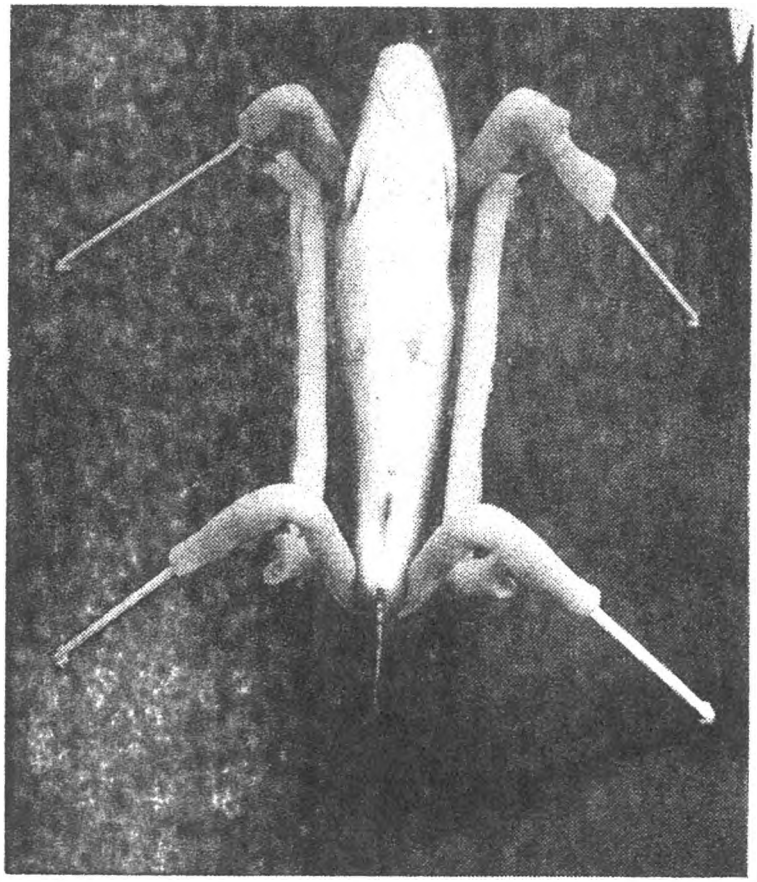

Fig. 2. Sabalo in inverted position on double "M" metal frame.

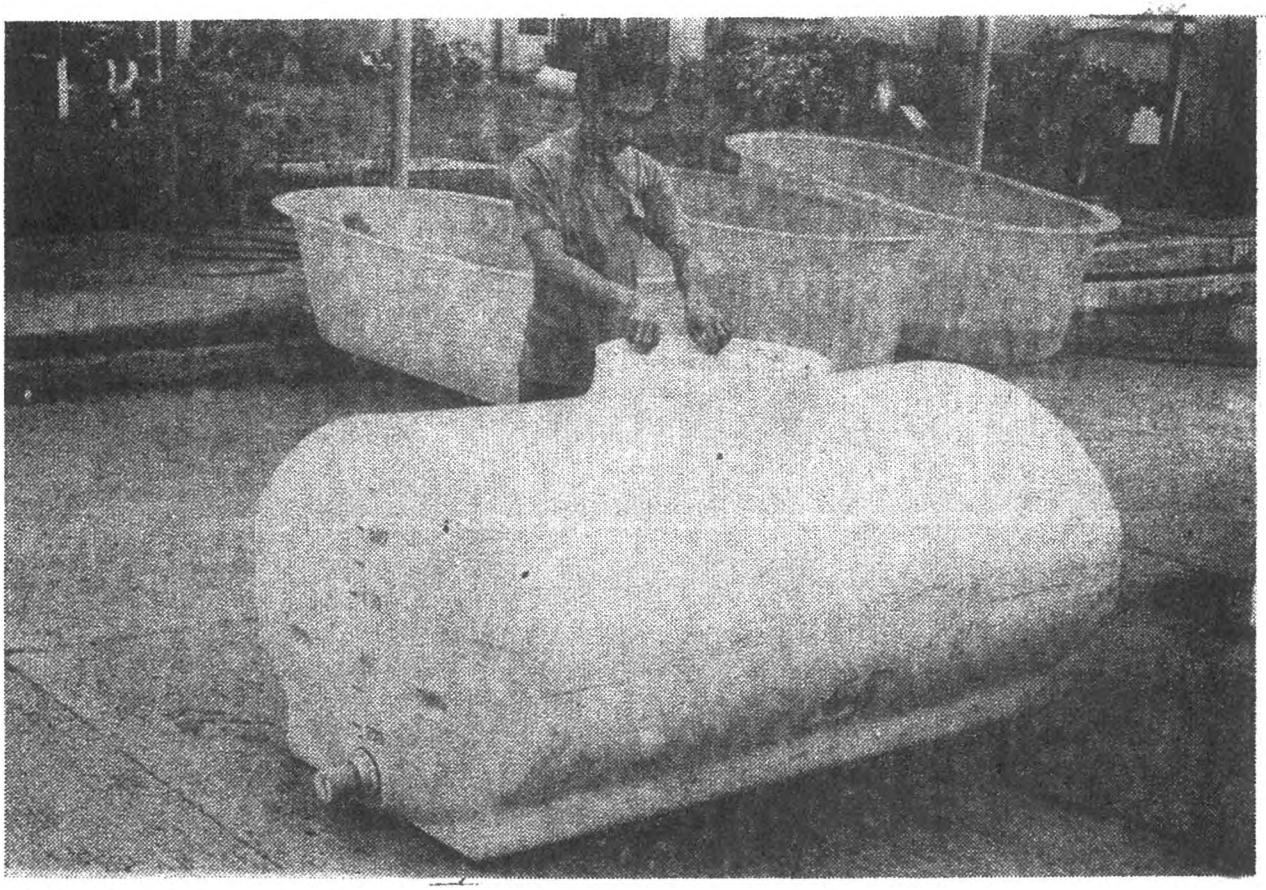

Fig. 3. PVC tank used in the transport of sabalo.

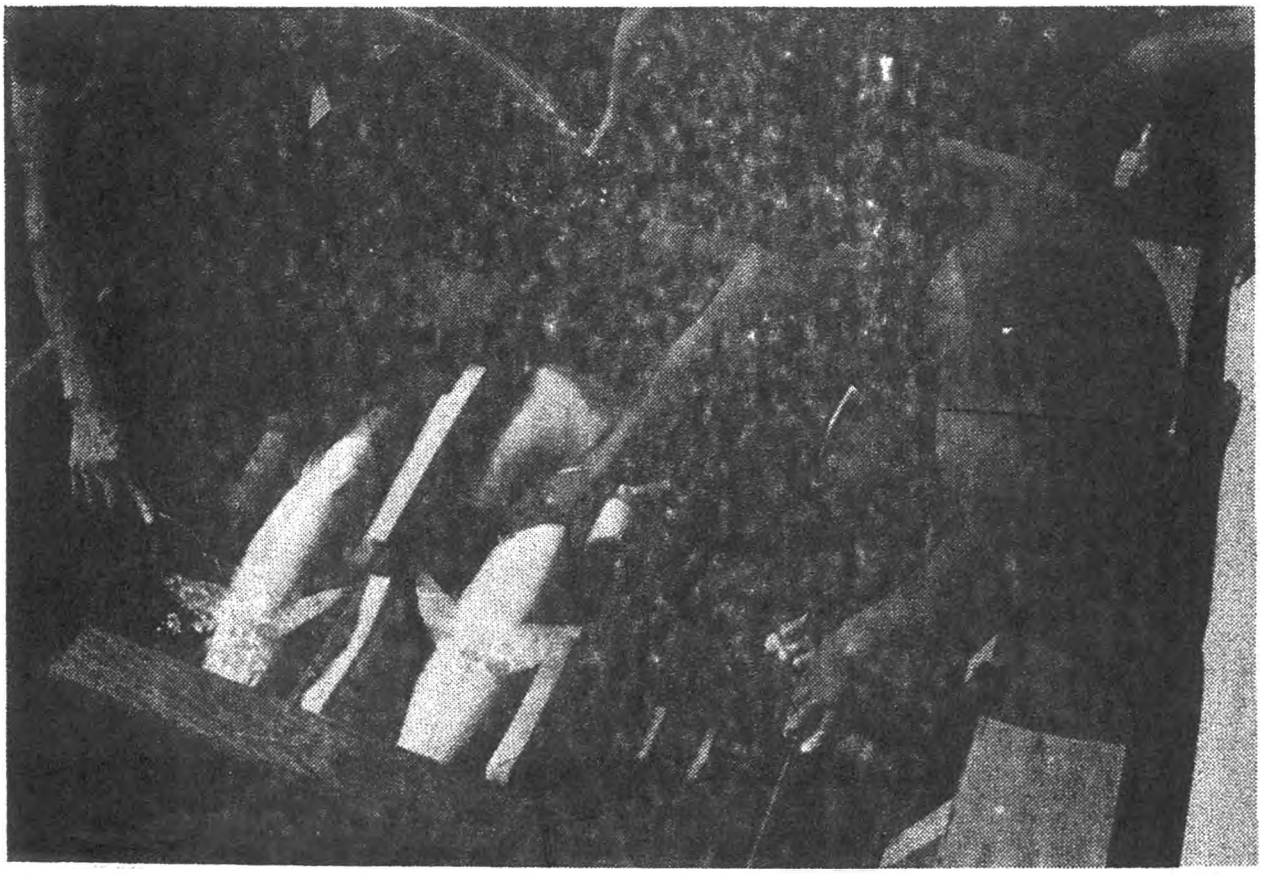

Fig. 4. Wooden tank with "V" slots for holding sabalo.

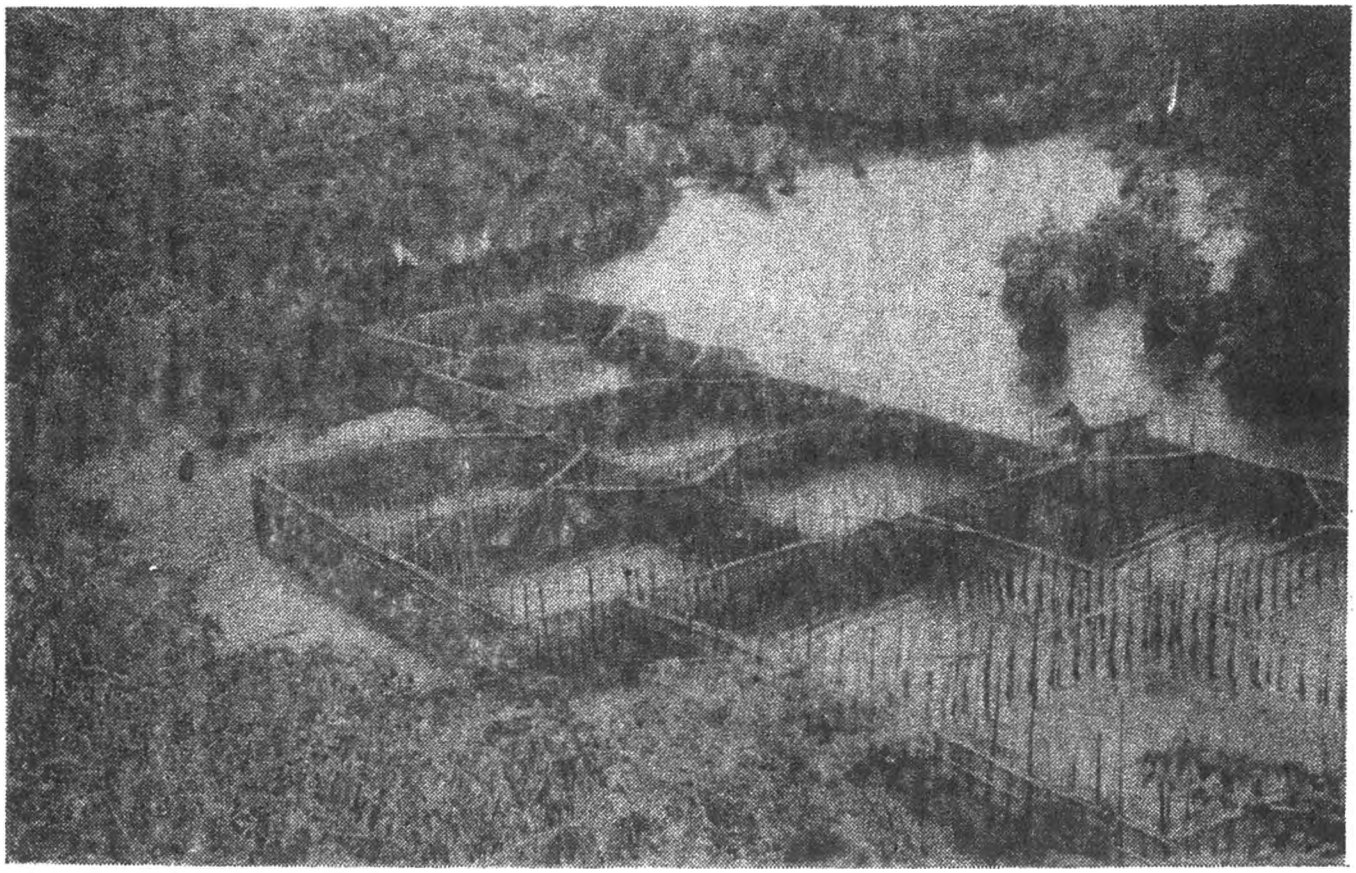

Fig. 5. Fishpen in Igang

Tigbauan Hatchery which are about 13 nautical miles and 200 m respectively from the catching site. Boat transport to Igang took about 1 1/2 hours, compared to Tigbauan which took only 3-5 minutes.

Results and Discussion

It has been observed from the above stated experiments that like highly domesticated Cyprinus, the sabalo also became passive and quiet when placed in an inverted position. This handling technique, therefore, facilitated transport even without the use of tranquilizers.

Several trials were made in 1975 at the SEAFDEC Pandan Station (Table 1). Out of the 13 sabalo which were transported, 10 survived the transport stress during the 200 km trip over rough road for four to five hours, and lived for at most 2 days in the Tigbauan hatchery. This result is significant because the sabalo that had been kept in the otoshi-ami for over a week duration were already badly injured even before handling and transport. The fish kept on bumping their heads against the net in their futile attempt to escape. As a result, the heads and bodies were badly bruised and in some cases the dematocranium was already exposed.

In 1976, sabalo transport operation continued from the fish corrals in Tigbauan and the gill nets in Lusaran to the Igang Station. In addition, sabalo were also transported from the fish corrals to the Tigbauan hatchery.

All the fish that were transported by the inverted method reached their destination alive (Tables 2, 3 & 4). However, some of them died of injuries due to their aborted attempts to escape out of the bamboo fish pens in Igang (Plate 5). Three sabalo died after hurting themselves when they jumped consecutively over one or two adjacent compartments.

As of May 20, 1976, two sabalo are still alive in Igang ang six in Tigbauan. One sabalo in Igang has been kept alive in captivity for 22 days while another sabalo in Tigbauan for 16 days.

Between the first day of transport to about five to six days later, the adipose tissue covering the the sabalo's eye and side of the head, together with the dorsal surface of the head, would turn opaque

from its original translucent state. At this stage, the fish also became practically blind, and one could catch it with his bare hands.

Thereafter, the eyecover of the fish started recuperating gradually to its original translucent condition in about five to seven days.

The oldest live sabalo in Tigbauan which was caught on 4 Ma, 1976 was transferred four days later from the open hatchery tank containing sea water to the roofed hatchery tank No. 5 with salinity of 14°/oo since the fish developed opaqueness of the eyecover. On 11 May 1976, the eyecover started clearing and by 16 May 1976, recovered completely.

It was, therefore, thought that reducing the salinity did the trick in effecting recuperation. So we decided to transfer to the brackishwater RH tank No. 5 the other 3 sabalos caught recently on 14 and 15 May and having opaqueness of the eyecovers; but inspite of the transfer to lower salinity the opaqueness continued.

Table 1. Result of sabalo transport from the otoshi-ami in May, 1975 in Pandan

Trial No.	Total No. of Sabalo transported	No. died on the way	No. survived the trip to Tigbauan	Length of survival at Tigbauan hatchery (in hours)
1	3	1	2	40 1/2
2	2	0	2	48 42
3	4	2	2	24 37
4	2	0	2	25 36
5	2	0	2	25 28
	13	1	12	40-longest

Table 2. Result of sabalo transport from the fish corrals to Igang in April and May, 1976.

Trial No.	Date collected	Total no. of sabalo transported	No. died on the way	No. survived the trip	Length of survival (in days)
1	30 Apr 1976	1	0	1	Still alive*
2	2 May 1976	1	0	1	3
3	3 May 1976	1	0	1	2
4	5 May 1976	1	0	1	1

*For 20 days as of 20 May 1976.

Table 3. Result of sabalo transport from gill net in Lusaran to Igang in April and May, 1976.

Trial No.	Date collected	Total no. of sabalo transported	No. died on the way	No. survived the trip	Length of survival (in days)
1	28 Apr 1976	1	0	1	Still alive*
2	6 May 1976	1	0	1	3
3	10 May 1976	1	0	1	1

*For 22 days as of 20 May 1976.

Table 4. Result of sabalo transport to the Tigbauan hatchery.

Trial No.	Date collected	No. of sabalo	No. died on the way	No. survived the trip	Length of survival (in days)
1	4 May 1976	2	0	2	4 Still alive*
2	8 May 1976	4	0	4	1 1 Still alive (2)*
3	9 May 1976	3	0	3	1 1 Still alive (1)*
4	14 May 1976	1	0	1	Still alive*
5	15 May 1976	2	0	2	Still alive*

*As of 20 May 1976.